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(to be used for all correspondence after initial filing)

Application Number	09/942,130
Filing Date	8-29-01
First Named Inventor	Robert McClure et al.
Art Unit	2112
Examiner Name	Kim T. Huynh
Attorney Docket Number	DEA-00003 (formerly DGI-105-A)

Total Number of Pages in This Submission

ENCLOSURES (Check all that apply)

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SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm or Individual name	Warn, Hoffmann, Miller & LaLone, P.C. John A. Miller - Reg No. 34,985
Signature	<i>John A. Miller</i>
Date	11-23-04

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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No.: 09/942,130
Filing Date: August 29, 2001
Applicant: Robert McClure et al.
Group Art Unit: 2112
Examiner: Kim T. Huynh
Title: EXPANDED FUNCTIONALITY PROTOCOL ADAPTER
FOR IN-VEHICLE NETWORKS
Attorney Docket: DEA-00003 (formerly DGI-105-A)

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RESPONSE TO FINAL OFFICE ACTION

Sir:

In response to the Final Office Action mailed October 25, 2004, to which a response is due by January 25, 2004, please consider the remarks set forth below.

Claims 2, 3 and 10-12 remain pending in this application. Of these claims, claim 2 stands rejected under 35 USC §102(a) as being anticipated by Robinson et al. Claim 3 stands rejected under 35 USC §103(a) as being unpatentable over Robinson et al. in view of Abudayyeh et al. Claims 10 and 11 stand rejected under 35 USC §103(a) as being unpatentable over Robinson et al. in view of Abudayyeh et al. and Chaloux. Claim 12 stands rejected under 35 §USC 103(a) as being unpatentable over Robinson

et al. in view of Abudayyeh et al., Chaloux and Stroth et al. The specification has been rejected under 35 USC §112, first paragraph, as failing to comply with the enablement requirement for the reasons stated on page 2 of the Office Action.

In view of the following remarks, these rejections are traversed and reconsideration of this application is respectfully requested.

Applicant's claimed invention is a protocol adapter for transferring diagnostic signals between a computer and a vehicle network. The protocol adapter supports different protocols so that old and new software used in the vehicle network are compatible with old and new hardware in the computer.

The specification has been rejected for being non-enabling. The Examiner has cited examples of lack of enablement for no description of figures 21-25, no flow chart for the LEDs, and no description of the controller. Applicant respectfully submits the Examiner's 112, first paragraph, rejection is improper in a final rejection because it was not cited in the first Office Action, mailed June 10, 2004. MPEP 707.07(g) states that a piecemeal examination is improper, and should be avoided. Therefore, Applicant respectfully submits because the Examiner did not reject the specification under §112, first paragraph, before the first Office Action, she is precluded from doing so in the Final Office Action. Therefore, it is respectfully requested that the §112, first paragraph, rejection or the Final Office Action be withdrawn.

Moreover, Applicant respectfully submits that the specification and drawings provide enough description to enable one of ordinary skill in the art to make or use the invention at the time the application was filed. As the Examiner is aware, it is the claims

of the Application that define the invention, and thus, it is the claims that determine what must be enabled by the specification.

MPEP 2164.04 requires that the Examiner construe the claims before making a determination that the claimed invention is not enabled. Applicant's independent claim 2 defines a protocol adapter comprising circuitry for transferring signals between in-vehicle networks and a computer for a plurality of different protocols, where the circuitry includes an RS232 bus. Independent claim 2 includes a device for indicating that the signals are being transferred on the RS232 bus, and also indicating which of the plurality protocols is being used. Dependent claims 3 and 10-12 state that the device is one or more LEDs.

The second paragraph on page 6 of the specification states that the protocol adapter includes status lights that allow the operator to determine what program is being executed by the protocol adapter. Further, that paragraph states that the microprocessor U5 shown in figures 3 and 18 and U10 in figure 9 will flash the LEDs on the I/O board to indicate which program is being run.

The next paragraph on page 6 states that the microprocessor U5 is used for the J1708 transceiver operating the J1708 protocol. Pages 5-8 of the specification describe the circuitry for transferring the signals between the in-vehicle networks and the computer for the different protocol, including using the RS232 bus. Applicant respectfully submits that the description on these pages and the corresponding figures provide more than enough detail to allow one of ordinary skill in the art to make or use the invention of independent claim 2.

Figure 17 shows the LEDs that are used to indicate the operation of the adapter, including which protocol is being used. Figures 21-25 provide a detailed discussion of when the LEDs 1 through 5, respectively, are illuminated and with what color. Applicant submits that this description is significant detail of the operation of the LEDs to enable one of ordinary skill in the art to make or use the invention of dependent claims 3 and 10-12.

MPEP 2164.01 states that the test for enablement is “whether one reasonably skilled in the art could make or use the invention from the disclosures in the patent coupled with information known in the art without undue experimentation.” Further, “the fact that experimentation may be complex does not necessarily make it undue, if the art typically engages in such experimentation.” MPEP 2164.01(a) gives several factors that can be considered when determining undue experimentation, including (a) the breadth of the claims. Applicant submits that the claimed invention is a small part of what is disclosed and fairly taught in the specification, and one of ordinary skill in the art would not require undue experimentation to make or use the invention of claims 2, 3 and 10-12. It is therefore respectfully requested that the §112, first paragraph, be withdrawn.

U.S. Patent No. 6,647,323 issued to Robinson et al. discloses a vehicle communication link automotive diagnostic tool. Particularly, a vehicle controller 12 within a vehicle 10 communicates with remote computers, referred to as software tools 16, over a communication network 14. The vehicle controller 12 includes various elements and communication architecture shown in figures 2 and 3 for allowing the controller 12 to communicate with the software tools 16.

The Examiner has directed Applicant's attention to column 2, lines 21-35 and column 3, lines 25-44 of Robinson et al., as teaching circuitry for transferring signals between an in-vehicle network and a computer for a plurality of different protocols. Applicant has carefully reviewed these parts of Robinson et al.

Applicant respectfully submits that Robinson et al. does not teach or suggest a protocol adapter including circuitry for transferring signals between an in-vehicle network and a computer over a plurality of different protocols, where the circuitry includes an RS232 bus. First, Robinson et al. does not teach any kind of protocol adapter. The vehicle controllers 12 shown in figure 1 are on the vehicle, and are part of the in-vehicle networks of the type that Applicant's claimed protocol adapter is coupled to. Column 2, line 21, cited by the Examiner, specifically states that the vehicle controller 12 is an on-board vehicle controller. The software tools 16, including the computer and hand device shown in figure 1, are representative of the computer that Applicant's claimed protocol adapter is coupled to. Robinson et al. would have to show a separate unit in the communication network 14 to show Applicant's claimed protocol adapter.

Applicant's claimed protocol adapter is not on the vehicle, but is a separate unit that one can use with different vehicles to allow the different vehicles having different kinds of vehicle networks to communicate with various types of computers over different protocols. The protocols that the software tool 16 can communicate with for the vehicle controllers 12 in Robinson et al. are only those that are on the vehicle, i.e., provided in the controllers 12. Applicant's claimed protocol adapter can communicate with vehicle networks on vehicles that do not include vehicle controllers operating over multiple

protocols. In other words, Applicant's claimed protocol adapter can communicate with many kinds of vehicle networks, old and new, using many kinds of protocols, old and new, to transfer diagnostic signals to many kinds of computers having old and new hardware. Further, Robinson et al. does not appear to say anything about using an RS232 bus in a protocol adapter.

The Examiner has further cited column 3, lines 15-18 and column 2, lines 36-55 as teaching a device for indicating that signals are being transferred between the adapter and the computer. Column 2, lines 36-55 are recreated below:

The vehicle controller of the present invention monitors a vehicle communication network for messages or requests by diagnostic tools for vehicle data. The vehicle controller includes communication link/interface receive buffers for the communication networks linked to the vehicle controller to determine if diagnostic tools are present on the communication network. Every message from a diagnostic tool includes an identifier which defines the message priority, the address of the diagnostic tool that sent the message, and information describing the requested data. The vehicle controller detects the message, via the receive buffers, and stores the ID or address of the tool and then transmits the requested vehicle data to the diagnostic tool. Thus, the vehicle controller of the present invention has a "plug and play" configuration. The diagnostic tool is plugged into the vehicle communication network, the vehicle controller detects the diagnostic tool, and the vehicle controller transmits data requested by the diagnostic tool without manual intervention.

Applicant has carefully reviewed this section of Robinson et al. and can find no teaching or suggestion therein that the Robinson et al. system includes a device for indicating which signals of a plurality of different protocols are being used. Column 3, lines 15-18 states "that the communication network 14 may comprise any known vehicle

communication system such as IES-CAN, GMLAN, KWP 2000, J1850, CCD, J1939, but is not limited to such.” The communication network 14 is a wire between the controller 12 and the computer 16. The communication network 14 is able to operate over the several protocols recited in column 3, but is unable to provide an indication of which protocol is being used.

Applicant respectfully submits that Robinson et al. does not anticipate Applicant’s independent claim 2. It is therefore respectfully requested that this rejection be withdrawn.

U.S. Patent No. 6,081,858 issued to Abudayyeh et al. discloses a circuit for regulating a random waveform signal to ensure that an LED indicator driven by the waveform signal is visible to the human eye. The Examiner has directed Applicant’s attention to a sensor circuit 206 that is used to detect data transfer activity on a PC card bus 110, and then generate an output pulse to an LED transform circuit 205. Applicant can find no suggestion or teaching in Abudayyeh et al. of an LED used to indicate which of a plurality of different protocols are being used by a protocol adapter that transfers diagnostic signals between a vehicle network and a computer. Therefore, Applicant respectfully submits that Abudayyeh et al. cannot provide the teaching missing from Robinson et al. to make Applicant’s claimed invention obvious.

U.S. Patent No. 5,764,156 issued to Chaloux discloses a transponder detector. The Examiner has directed Applicant’s attention to column 4, lines 26-61. This section of Chaloux talks about energizing an LED when a particular pulse is detected. Applicant can find no teaching in Chaloux of using LEDs in a protocol adapter, where the LEDs indicate which of a plurality protocol is being used.

U.S. Patent Publication No. 2002/0039026 to Stroth et al. discloses a power line testing device having a signal generator and signal detector, and also has nothing to do with a protocol adapter that transfers diagnostic signals between a vehicle network and a computer. Further, the publication date of this patent publication is April 4, 2001, after the priority date of August 30, 2000 of the present application. Therefore, Applicant submits that Stroth et al. is not prior art.

In view of the preceding discussion, it is respectfully requested that the §103(a) rejections be withdrawn.

It is now believed that this application is in condition for allowance. If the Examiner believes that personal contact with Applicant's representative would expedite prosecution of this application, she is invited to call the undersigned at her convenience.

Respectfully submitted,

WARN, HOFFMANN, MILLER & LaLONE, INC.

Dated: 11/23/04

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